Fig. 1A

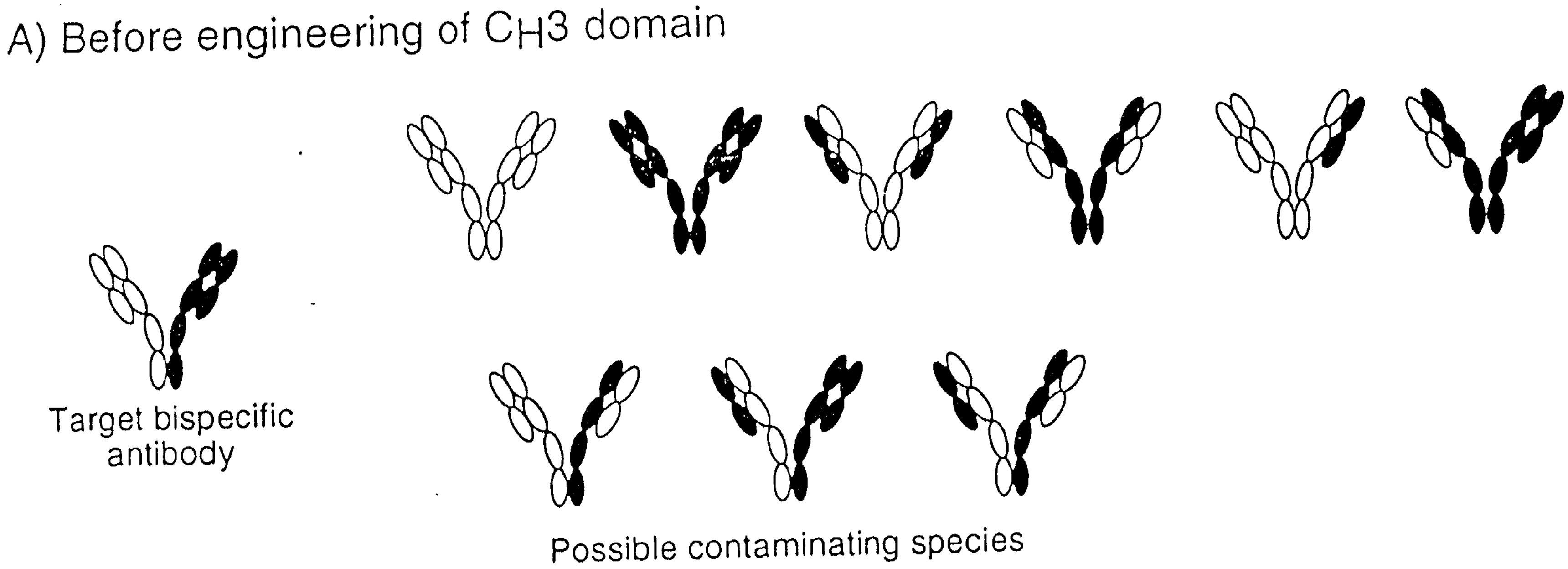
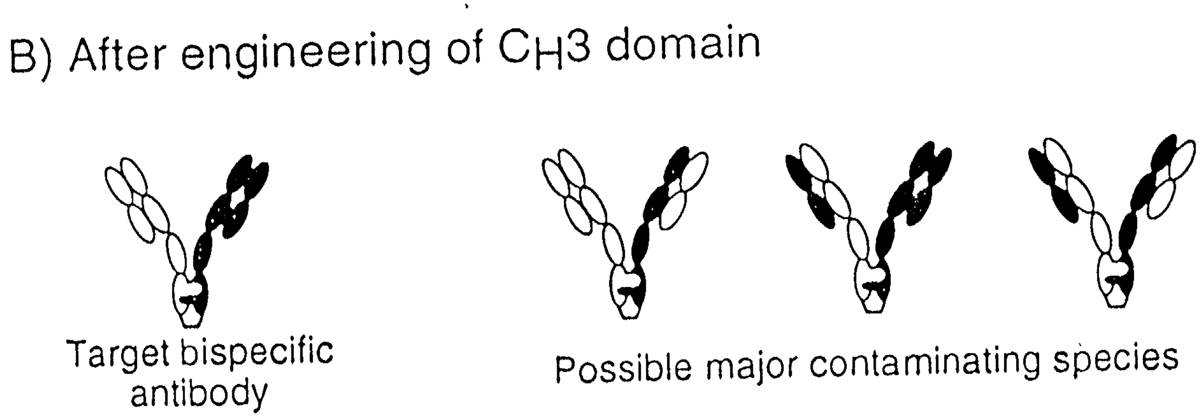
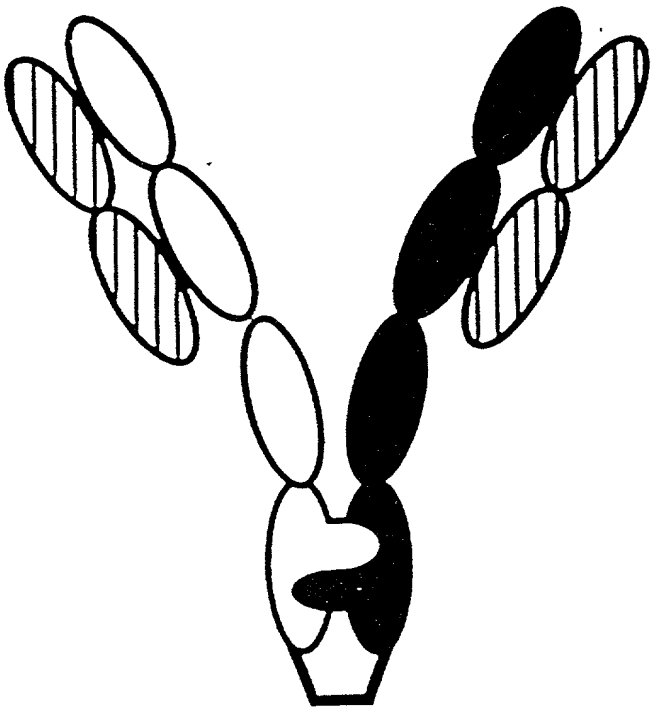


Fig. 1B



◡ = Engineered disulfide bond between CH3 domains



Target bispecific
antibody

Fig. 1C

Fig. 2A

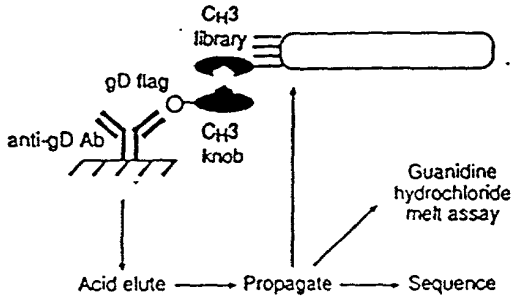


Fig. 2B

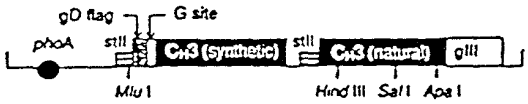
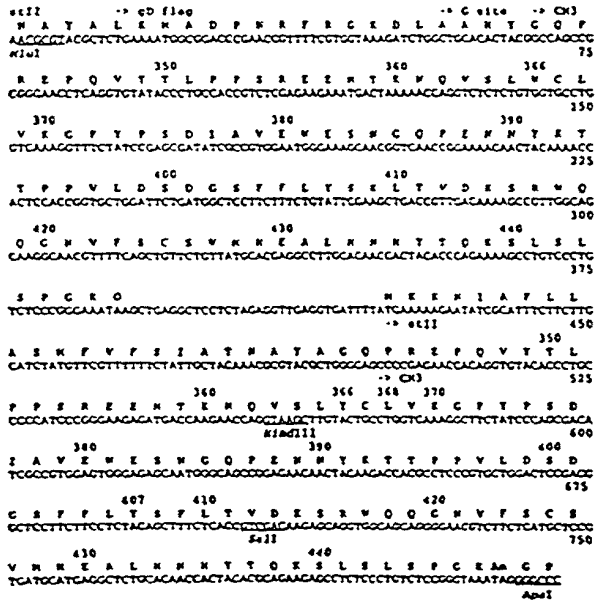


Fig. 2C



(SEQ ID NO: 13)

Fig. 3A

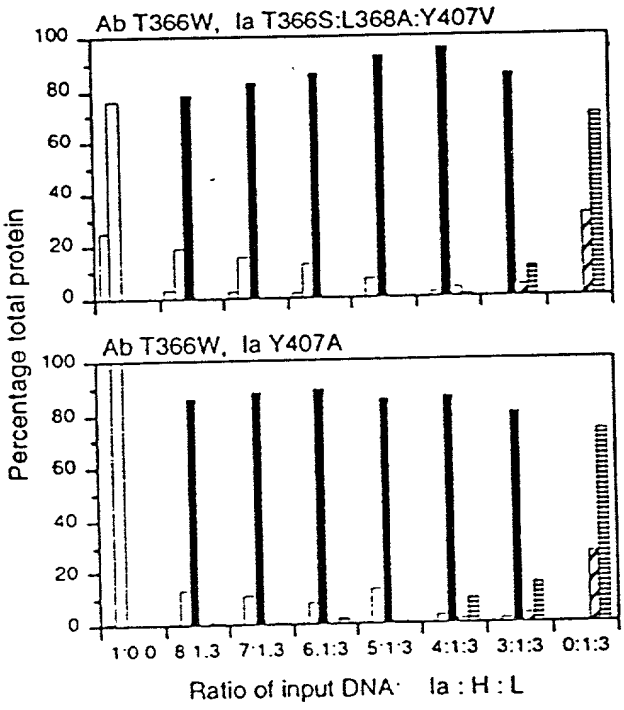


Fig. 3B

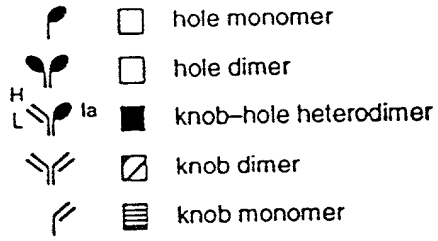


Fig. 3C

```
                  1                  20       abc 30        40         50
Axl.78            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
Rse.23            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
IgER.MAT2C1G11    QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
GCSFR.A4          QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
Rse.04            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKGPKLMIYEGSKRPSGV
obr.4             QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
Rse.20            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKGPKLMIYEGSKRPSGV
Rse.15            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
vegf.5            QSVLTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEGSKRPSGV
                                          ##########                ###
                                            CDR L1                   CDR L2

                  60        70        80        90    a  100
Axl.78            SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 14)
Rse.23            SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 15)
IgER.MAT2C1G11    SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 16)
GCSFR.A4          SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 17)
Rse.04            SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 18)
obr.4             SNRFSGSKSGSTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 19)
Rse.20            SNRFSGSKXGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 20)
Rse.15            SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 21)
vegf.5            SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTTRSTRVFGGGTKLTVL  (SEQ ID NO: 22)
                                                  #######
                                                  CDR L3
```

Fig. 4

V_H

```
her3.18  10        20        30    ab  40        50  a
 QVQLVQSGGGLVQPGGSLRLSCAASGFTFSSYEMN--WVRQAPGKGLEWVSGISGSGGSTYY
  **** ** *** *   * * *  **   **      * ** *******   *   *****
 EVQLVESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIY-YSGSTYY
obr.26                        CDR H1                      CDR H2

60        70        80  abc       90       100abcde      110
 ADSVKGRFTISRDNSKNTLYLQMNRLRAEDTAVYYCARDNGWELTDWYFDLWGRGTMVTVSS
   * * * *** * ***   *       * *********          * ** ** *****
 NPSLKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCARVDLEDYGSGASDYWGQGTLVTVSS
 CDR H2                                      CDR H3
```

(SEQ ID NO: 23)

(SEQ ID NO: 24)

V_L

```
her3.18  10        20        30        40        50        60
 DIQMTQSPSTLSASIGDRVTITCRASEGIYHWLAWYQQKPGKAPKLLIYKASSLASGAPSRF
obr.26                      CDR L1                CDR L2

       70        80        90      100
 SGSGSGTDFTLTISSLQPDDFATYYCQQYSNYPLTFGGGTKLEIK
                           CDR L3
```

(SEQ ID NO: 25)

Fig. 5

Percentage Identity of anti-ObR and anti-HER3 V_L

	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11
O1	49	47	51	81	60	48	76	51	**100**	62	51
O2	84	79	88	50	48	99	48	88	48	45	88
O3	83	82	85	51	50	95	49	85	49	46	85
O4	47	50	51	83	77	48	65	51	73	64	51
O5	49	47	51	81	60	48	76	51	**100**	62	51
O6	83	79	86	50	50	99	47	86	48	45	86
O7	81	**100**	86	51	49	80	48	86	47	44	86
O8	81	**100**	86	51	49	80	48	86	47	44	86
O9	81	**100**	86	51	49	80	48	86	47	44	86
O10	83	79	85	50	49	98	46	85	48	45	85
O11	83	80	87	50	49	99	47	87	48	45	87
O12	81	**100**	86	51	49	80	48	86	47	44	86
O13	49	47	51	81	60	48	76	51	**100**	62	51
O14	50	50	54	95	67	49	76	54	75	62	54
O15	82	79	85	49	48	97	46	85	47	44	85
O16	84	80	87	50	49	**100**	47	87	48	45	87
O17	45	44	47	65	62	45	62	47	62	**100**	47
O18	50	51	50	75	79	50	63	50	66	62	50

O1-O18: Anti-Ob-R antibody clones obr. 1, 11, 12, 14, 15, 16, 17, 18, 19, 2, 20, 21, 22, 23, 24, 26, 3, 4, respectively.

H1-H11: Anti-HER3 antibody clones her3.1, 3.10, 3.11, 3.12, 3.16, 3.18, 3.19, 3.22, 3.3, 3.4, 3.7, respectively.

Fig. 6